

NOTES ON NEW OR RARE SPECIES OF GASTEROMYCETES

W. H. LONG

For several years the writer has had in his herbarium three species of *Gasteromyces*, collected in Texas, two of which are undescribed. Lack of time has prevented an earlier discussion of them.

***Geasteroides* gen. nov.**

Peridium double; exoperidium splitting into starlike, reflexed, persistent segments; endoperidium more or less deciduous, fragile, upper half usually splitting into fragments which cling to inner surface of exoperidium when it expands, basal portion of endoperidium persistent and attached to a corky sterile base, mouth single, columella and capillitium present.

***Geasteroides texensis* sp. nov.**

Exoperidium thick, rigid, coriaceous, subhygrometric, outer surface ocher-colored to whitish in old specimens, often with an outer thin layer of arachnoid mycelium and dirt that peels off as the plants mature, 4-10 cm. in diameter when expanded, splitting into 7-10 unequal and strongly recurved segments with incurved tips, segments about one half as long as entire exoperidium, convex above and concave beneath when fully expanded, inner surface of exoperidium dark brown, fissured and cracked when dried; endoperidium seated on a short subligneous stipe which broadens out into a top-shaped, persistent, corky, sterile base, top-shaped base including stipe and gleba 1-3 cm. tall by 1-3 cm. broad, endoperidium whitish to brownish, very fragile, apparently with a poorly defined mouth, upper part of endoperidium breaking away either when the exoperidium opens or soon thereafter, leaving the prominent sterile base crowned with the subglobose columella and spores attached to the convex center of the exoperidium, cells of sterile base next to stipe very small and whitish; mature gleba dark purplish-brown, in very old weathered specimens entirely disappearing and leaving only the sterile top-shaped base seated on the stipe, or sometimes the sterile base

breaks away entirely from the exoperidium, in which case it resembles very much the sterile base of a *Calvatia*; spores globose, faintly verrucose, brown, $3-5\mu$ in diameter; capillitium wine-colored to brown under microscope, threads very long, sparingly and very distantly branched, $7-10\mu$ thick, tapering to a slender point, septate in thicker portions, breaking up into segments some of which are 800 to 1000μ long, walls smooth or often appearing as if filled with minute pits, lumen very small or none.

In rich, loose, sandy loam around base of old, rotting, post oak (*Quercus stellata*) stumps. Type collected at Denton, Texas, October 8, 1907, by W. H. Long (No. 2011).¹ Other collections were made by the writer as follows: At Denton, Texas, September, 1906, and October 14, 1907 (Nos. 1671 and 2034). The distinguishing features of this plant are its prominent persistent corky sterile base and its deciduous fragile endoperidium. It is a *Calvatia* among the geasters.

The genus is closely related to *Geasteropsis* Hollos, but differs from this plant in having a sterile persistent base to which the lower part of the endoperidium is firmly attached. According to the description and figures given by Hollos,² the dehiscent endoperidium of *Geasteropsis* encloses the subligneous stipe and columella making quite a different plant from the one here described.

Arachniopsis gen. nov.

Plants subglobose, terrestrial, peridium double, outer or exoperidium fragile, more or less deciduous; endoperidium cartilaginous, opening irregularly at apex; gleba consisting of a powdery mass of spores and capillitium without either columella or peridiales.

Arachniopsis albicans sp. nov.

Plants subglobose to irregularly globose, white, 5-20 mm. across, usually with a radicate base like a phalloid; exoperidium mealy to powdery, white, gradually weathering off; endoperidium cartilaginous, often very thin at apex, splitting into several irregular tooth-like segments at top, which are more or less incurved onto the gleba; gleba powdery, drab *en masse* consisting of spores and capillitium; spores subhyaline, with a greenish

¹ Unless otherwise stated all of the herbarium numbers cited in this article refer to the herbarium numbers of the writer.

² Hollos, L. Növényt. Közlem. 2: 72-75. 1903.

tinge, obovate to subglobose, $3-5\mu$ long by $3-4\mu$ broad, faintly verruculose; capillitium present but rather scanty, hyaline, distantly septate and sparingly branched, $3-6\mu$ in diameter, somewhat granular, often breaking up into rather short segments, walls very thin.

In black soil of prairies under wire fences. Type collected by W. H. Long at Denton, Texas, December 27, 1908 (No. 2106). Two other collections were made by the writer under wire fences in black soil in the same locality as follows: September, 1907 (No. 2008a), and December 23, 1907 (No. 2052). Some twenty specimens of this interesting little species were found during 1907 and 1908. The plants resemble externally, phalloid eggs which have failed to develop, but their internal structure is quite different from that of a phalloid. All of the fences on the prairies where this plant grows are made of barbed wire. In plowing the land the soil is thrown toward the fence, thus burying a large amount of vegetable debris; it is in such localities that this plant seems to thrive best.

This plant resembles in its manner of growth an *Arachnion*, but differs from this genus in having a true capillitium, a cartilaginous endoperidium, and no peridioles. Its peculiar habitat, its small size, and general resemblance to *Arachnion album* probably explain why it has not been found before.

LYSURUS TEXENSIS Ellis (?)

"Eggs" in groups of several individuals, white, about 1 inch in diameter; stipe hollow, tapering toward base, reddish above, much paler below, 3-5 inches tall by 0.5 inch thick; walls of stipe of two layers of chambers thick, chambers 2-3 times as long as broad, opening outwardly occasionally but not inwardly, polygonal in cross section, pseudoparenchymatous, stipe crowned by a finger-like pileus; arms or fingers 4-5, at first joined by a thin membrane at apex, later separating, 0.3-0.5 inch long, tapering toward apex, hollow, pseudoparenchymatous, orange-red, transversely rugose, with a shallow furrow or suture along back of each, entirely covered by the gleba on sides and outer surface, inner faces or sides not gleba-bearing, expanding at base where joined to stipe into a thin, flat, lobed border, lobes as many as the arms and lying between their bases; gleba covering and completely hiding the outer surface of arms and border, having

much the appearance of a *Phallus* but when the gleba deliquesces the true nature of the pileus is seen, gleba foetid, black at maturity; spores of usual type of *Phallaceae*.

Collected in soil near a rotting strawstack, at Denton, Texas, 1907, by W. H. Long (No. 2000). Six plants were found close together as if growing from a common mycelium, all in a semi-dried condition.

The writer has, with much hesitancy, provisionally assigned this plant to *Lysurus texensis* Ellis, since there was undoubtedly a plant of this character collected in Texas, although the description was not completed. It, however, may be only a red form of *Anthurus borealis* Burt.

LATERNEA COLUMNATA (Bosc.) Nees

A fine specimen (dried) of this plant has just been received from Texas. It has four columns and when fresh was undoubtedly red. A detailed description is unnecessary since the specimen is typical of this well known and widely distributed species. In soil (?), collected at Houston, Texas, January, 1917, by Geo. L. Fisher and communicated by B. C. Tharp (No. 6270, Herb. Long). *Laternea triscapa* Turp. has also been reported from Texas and is supposed to be in the Ellis collection, but apparently the specimen is lost, since previous efforts to locate it failed.³ It was probably *L. columnata*.

Six species of phalloids are now known from Texas, viz.: *Phallus impudicus* L. var. *imperialis* Schw., *P. rubicundus* Bosc., *Mutinus caninus* (Huds.) Fries, *Simblum sphaerocephalum* Schlecht., *S. texense* (Atk. & Long) Long, *Laternea columnata* (Bosc.) Nees, and *Lysurus texensis* Ellis (?).

Type material of *Geasteroides texensis* and *Arachniopsis albicans* has been deposited in the Pathological and Mycological Collections of the Bureau of Plant Industry, Department of Agriculture, Washington, D. C.

OFFICE OF INVESTIGATIONS IN FOREST PATHOLOGY,
BUREAU OF PLANT INDUSTRY,
ALBUQUERQUE, N. MEX.

³ Long, William H. The Phalloideae of Texas, Jour. Myc. 13: 113. 1907.